

JPAB

CLIPPEDIMAGE= JP359160515A

PAT-NO: JP359160515A

DOCUMENT-IDENTIFIER: JP 59160515 A

TITLE: SEPARATING AND ENRICHING SYSTEM FOR OXYGEN IN AIR

PUBN-DATE: September 11, 1984

INVENTOR-INFORMATION:

NAME

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ASSIGNEE-INFORMATION:

NAME

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COUNTRY

N/A

APPL-NO: JP58033599

APPL-DATE: February 28, 1983

INT-CL (IPC): B01D053/04; C01B013/02

US-CL-CURRENT: 96/130

ABSTRACT:

PURPOSE: To adsorb selectively N<sub>2</sub> from raw air by using a zeolite adsorbent and to separate O<sub>2</sub> to a high concn. by dividing the air to the fore stage air subjecting to the adsorption and the post stage air having the temp. higher than the temp. of said fore stage air and subjecting to pressure extrusion.

CONSTITUTION: Valves 6, 10 are opened to allow the fore stage raw air under the

atmospheric pressure to flow naturally through a check valve 13 and a valve 6 into the adsorption cylinder under the pressure reduced to a vacuum; at the same time, the gaseous O<sub>2</sub> reserved in a storage tank 3 is introduced by counter current through a valve 10 into the adsorption cylinder. The raw air and the counter current gaseous O<sub>2</sub> are cooled by adiabatic expansion and the adsorption reaction is progressed, by which the pressure in the cylinder is increased so as to balance with the atmospheric pressure.

When

the high-pressure high-temp. air in the post stage is forced from a compressor 4 into the adsorption cylinder 1 by closing a valve 8 and opening a valve 6, the check valves 13, 14 are closed by the pressure and the inside of said adsorption cylinder is beginning to be pressurized.

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JPAB

CLIPPEDIMAGE= JP408294613A

PAT-NO: JP408294613A

DOCUMENT-IDENTIFIER: JP 08294613 A

TITLE: SEPARATION METHOD FOR OXYGEN GAS

PUBN-DATE: November 12, 1996

INVENTOR-INFORMATION:

NAME

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ASSIGNEE-INFORMATION:

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APPL-NO: JP07127058

APPL-DATE: April 26, 1995

INT-CL (IPC): B01D053/04; C01B013/02

ABSTRACT:

PURPOSE: To simply and efficiently separate oxygen gas from mixed gas by specifying a ratio of the amount of gas moved in the first half of a pressure equalizing process to that in the entire process in the pressure equalizing process in which the product gas outlet end of an adsorption column immediately

after the end of an adsorption process is made to communicate with the product gas outlet end of an adsorption column immediately after the end of a regeneration process.

CONSTITUTION: A pressure swing adsorption(PSA) apparatus is composed of adsorption columns 1, 2, an air compressor 3 for supplying raw air, an air drier 4, a surge tank 5 for storing product oxygen gas, a vacuum pump 6 for regenerating zeolite, etc. A cycle of an adsorption process, a pressure equalizing process, a regeneration process, and a pressure equalizing process is operated in the adsorption columns 1, 2. The amount of gas moved in the pressure equalizing process is taken into account until the pressure difference

between the adsorption columns 1, 2 becomes zero, and a ratio of the amount of gas moved in a process in which pressure is equalized by making the product gas

outlet end of the adsorption column immediately after the end of the adsorption

process communicate with the outlet end of the adsorption column immediately after the end of a regeneration process in the first half of the process to the

amount of gas moved in the entire pressure equalizing process is made 0.05-0.9.

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